
Contributions to South American Caesalpiniaceae. I. Two New Species of *Jacqueshuberia* from the Venezuelan Guayana

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ABSTRACT. Study of Caesalpiniaceae collections from the Venezuelan Guayana has revealed the first known occurrences of *Jacqueshuberia* in the region, with two new species, *J. splendens* from Cerro Aracamuni in southern Amazonas state and *J. pustulata* from the Río Autana watershed in northern Amazonas state.

RESUMEN. El estudio de colecciones de Caesalpiniaceae de la Guayana venezolana ha resultado en el primer reporte del género *Jacqueshuberia* de la región, con dos especies nuevas, *J. splendens* de Cerro Aracamuni, al sur del Estado Amazonas, y *J. pustulata* de la cuenca del río Autana al norte del Estado Amazonas.

The most recently described of the five previously known species of *Jacqueshuberia*, *J. brevipes* Barneby (1990), was described from Guyana and was the first report of this genus outside of the Amazon basin (Silva & Graham, 1980). Due to Venezuela's proximity to Guyana, it was to be expected that the genus would eventually be found there. The highly restricted distributions of all known species in the genus, as well as the paucity of collections, were well summarized by Barneby (1990), as was the genus's botanical history since it was first described by Ducke (1922) from Brazilian Amazonia.

Both new species described herein are known from single collections from Amazonas state in Venezuela. *Jacqueshuberia splendens* is presently known from rocky slopes of Cerro Aracamuni at 800 m elevation in southern Amazonas state, whereas *J. pustulata* is restricted to northern Amazonas in the headwaters of Autana River at 110–120 m elevation. Both species share a low growth habit (4–5 m) and local distributions among shrubby or patchy, low, streamside forests.

Jacqueshuberia pustulata Stergios & P. E. Berry, sp. nov. TYPE: Venezuela. Amazonas: Municipio Atures, caño Cabeza de Manteco, afluente del río Autana en Salto Manteco, 5°52'N, 67°27'W, 110–120 m, 10 Nov. 1984, E. Melgueiro & F. Guánchez 5 (holotype, TFAV; isotypes, MO, PORT). Figure 1.

Arbor 5-metralis, foliis 35–40 cm longis, 24–28-pinnatis; pinnis 50–70-jugatis, rachi angulato, lateraliter acuto, internodiis dense paleaceo-pubescentibus; foliolis rugose reticulatis, supra distincte pustulatis, 10–11 mm longis, 1–2 mm latis; calycis tubo viridi-olivaceo, petalis cucullatis luteis, 6 mm longis, 3 mm latis.

Small tree up to 5 m tall; branchlets notably 5-sulcate, 8–10 mm thick, reddish brown tomentulose along the rounded ridges but nearly glabrous within the grooves. Stipules paripinnate, coppery paleaceous-tomentulose along midrib, 2.5–3 cm long with 16–20 pairs of leaflet-like lobes; stipule lobes linear-lanceolate, somewhat cymbiform, 8–9 × 1–1.2 mm, minutely appressed-pilulose, especially near the base, midrib and 6–8 pairs of straight-ascending lateral nerves distinctly raised on both surfaces, lateral nerve pairs becoming somewhat subcontiguous toward the apex. Leaf 35–40 cm long, 3.5–4 mm thick along lower half, attenuating toward the apex, stalk minute-pilulose; rachis adaxially canaliculate and angled with a pointed ridge along the entire length; petiole 4–4.5 cm; interpinnal segments 0.8 cm, densely paleaceous-tomentulose along lateral ridge extending from the pinnal nodes; pinnae 24–28-paired, pairs remaining opposite along entire leaf length, 7–10 cm long, the shorter pinnae occurring toward the base and apex of the leaf, interfoliate segments 1 mm; leaflets 50–70-jugate, opposite along rachis, 10–11 × 1–2 mm, somewhat falcate-naviculiform with a rounded apex, inequilateral and generally applanate at the base, glabrous, stiff-herbaceous in texture, rugose-reticulate on both surfaces but primarily on the lower and notably pustulate on the upper, midvein readily visible on lower surface but

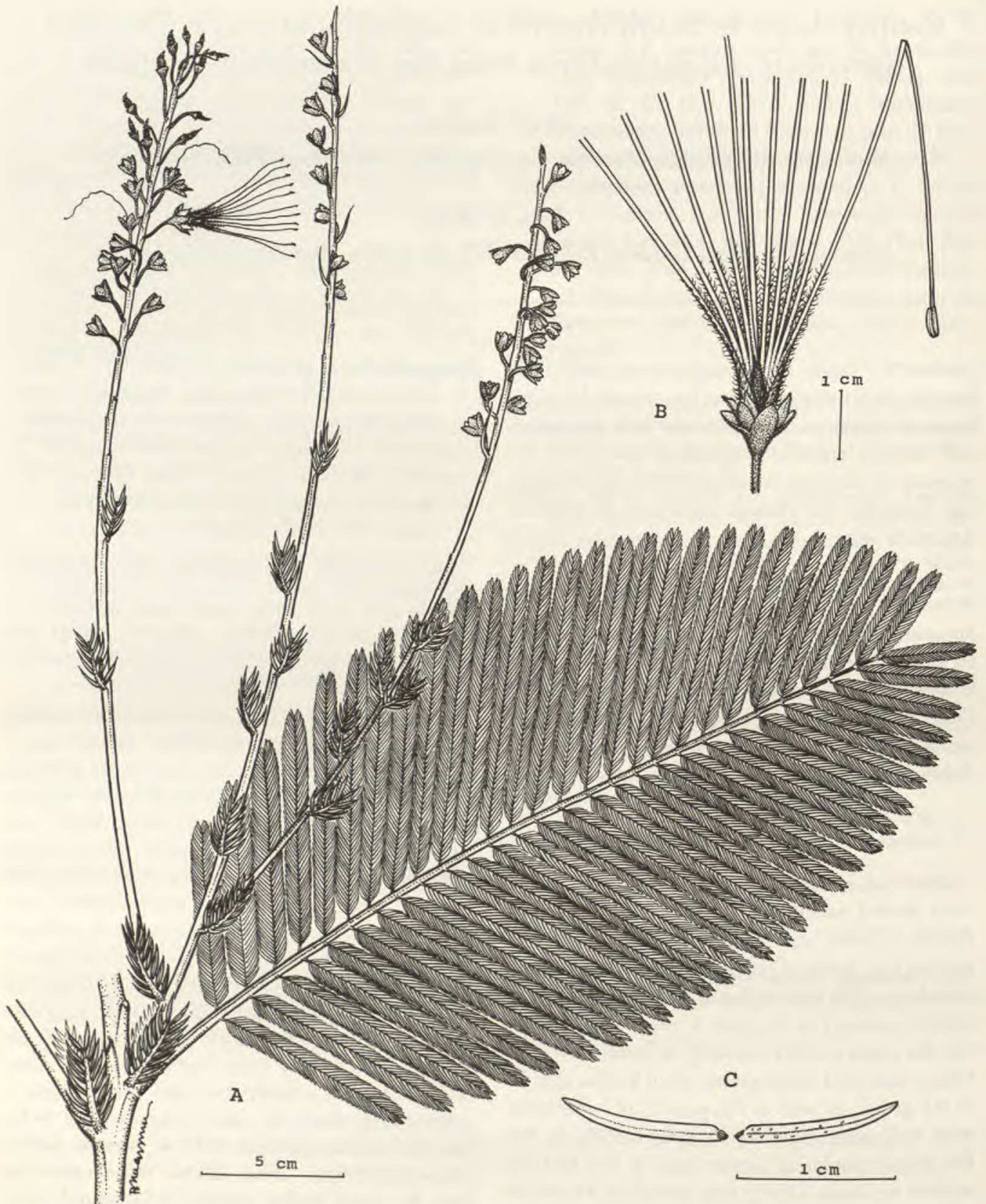


Figure 1. *Jacqueshuberia pustulata* Stergios & P. E. Berry. —A. Habit. —B. Flower showing only lower part of stamens. —C. Leaflets. Based on Melgueiro & Guánchez 5.

barely so on the upper, lateral veins not discernible. Inflorescence a terminal, 1–3-branched panicle of racemes, 35–40 cm long, efoliate, minutely tomentulose-puberulent, flowers loosely distributed along apical half of panicle branches, 1–1.8 cm between them at mid-point along raceme; pedicels

1.7–2 cm long, erect tomentose-puberulent, cernuous to nutant closer to base of flowers; bracts paripinnately foliar, 8-jugate, 2 cm long and very similar in appearance to the foliar stipules. Flowers mostly drooping near the apex of the pedicels; floral bracts obtuse, 5×3.5 –4 mm, reflexed-cucullate,

partly appressed-tomentulose without, glabrous within, margins minutely but entirely ciliolulate, caducous; hypanthium olive drab, cupular, 4×4 mm, reddish to copper-brown and erect-tomentulose; sepals broadly ovate, $6.5\text{--}7 \times 6$ mm (at base), blotchily tomentulose without, glabrous within; petals yellow, cucullate, 6×3 mm, caducous; staminal tube 7–11 mm long, copiously reddish lanate-villose; stamens 10, equal, but filaments tend to be fused in pairs at unequal levels near top of tube, the free portion 2.5–4.5 cm long, glabrous; anthers $4 \times 1\text{--}1.5$ mm, glabrous, rounded at the apex; ovary sessile, $5\text{--}6 \times 1.5$ mm, densely cinnamon-tomentose; style 2.5–2.8 cm long, glabrous; ovules 15. Pods not seen on specimens studied.

Distribution and ecology. In low, open forest near a waterfall along black-water streams, in the headwaters of the Río Autana in northern Venezuelan Amazonas state, at 110–120 m elevation. The tree is frequented by very aggressive ants.

By virtue of the large number of pinnae and the nitid condition of the leaflets, *Jacqueshuberia pustulata* appears to be most closely related to *J. brevipes* and *J. splendens*. It differs from *J. brevipes* in the larger leaves and more numerous but smaller pinnae (50–70 vs. 35–48 pairs) that are linear and rugose-reticulate. *Jacqueshuberia pustulata* also has longer pedicels and a larger hypanthium than *J. brevipes*. The stipule lobes of *J. pustulata* are smaller than those of *J. brevipes* ($8\text{--}9 \times 1$ mm vs. 20×4 mm). Mature trees of *J. pustulata* are found at low altitudes (110–120 m) in low, open, riverine forests and are only about 5 m tall, whereas *J. brevipes* are ca. 20-m-tall, montane forest trees on sandstone.

Jacqueshuberia pustulata differs from *J. splendens* in its larger leaves and greater number of leaflets per pinna. The leaf rachis is angled with a pointed ridge rather than rounded along the leaf as in *J. splendens*, and the internodes are densely paleaceous-pubescent, as opposed to nearly glabrous. The leaflets of *J. pustulata* are thinner, slightly longer, more falcate, and more rugose-pustulate than those of *J. splendens*. The stipule lobes of *J. pustulata* are also larger than those of *J. splendens*, which are only $4\text{--}5 \text{ mm} \times 0.8$ mm. The inflorescence of *J. splendens* is a short, axillary, and generally unbranched raceme, while that of *J. pustulata* is a terminal panicle 35–40 cm long. The petals and staminal tube of *J. splendens* are larger and more showy than those of *J. pustulata*; both these species have yellow petals, however, a character known elsewhere in the genus only in *J. quinqueangulata* Ducke.

Jacqueshuberia splendens Stergios & P. E. Berry, sp. nov. TYPE: Venezuela. Amazonas: Municipio Río Negro, arbustales, roca abierta y bosque denso en la vertiente oriental del Macizo Aracamuni, $1^{\circ}32'N$, $65^{\circ}48'W$, aprox. 800 m, Feb. 1981, O. Huber & E. Medina 5929 (holotype, US; isotype, VEN). Figure 2.

Arbuscula 4-metralis, ramis patentibus; pinnis 49–53-jugatis; foliolis nitentibus, crasse coriaceis, costa venisque obsoletis; stipularum lobis parvis, minus quam 5 mm longis; floribus luteis, magnis, conspicuis, petalis 8–10 mm longis, 4–5 mm latis, tubo stamineo 15–17 mm longo.

Small tree about 4 m tall with a spreading crown; terminal branchlets 5-sulcate, sparsely reddish brown, erect-puberulent to glabrous, surface somewhat verrucate-striate over and among the longitudinal grooves. Stipules paripinnate, reddish brown, short, erect-puberulent, 1 cm long, 5–6-jugate; lobes very minutely, \pm appressed-puberulent, $4\text{--}5 \times 0.8\text{--}1$ mm, mucronate at apex, coriaceous; midrib distinct on lower surface, raised and dark-colored, invisible on upper surface. Leaf 14–27 cm long, compoundly bipinnate, 2.5 mm thick at base of petiole, attenuating to 1 mm thick at leaf apex; rachis rounded-canalicate adaxially; petiole 2.5 cm long; interpinnal segments 8–11 mm long, minutely ferruginous-tomentulose; pinnae 15–18-paired, opposite, 5.5–8 cm long, the longer pinnae at leaf midpoint; leaflets 49–53-jugate, opposite along rachis, mature leaflets glabrous and notably lustrous, younger leaflets and those of apical pinnae often loosely pilose at or near the apex, with a minute tuft of hairs right at the tip, thick-coriaceous, with rounded margins and a concave center-depression on the upper surface, \pm smooth and notably globulate on both surfaces, $8\text{--}9 \times 1.5$ mm, obliquely inequilateral, somewhat falcate, apex acute; venation not visible, except midrib faintly on lower surface. Inflorescence an axillary raceme or panicle 11–15 cm long, minutely puberulent or nearly glabrous, flowers 15–20 per raceme, clustered near tips, verticillate, 3–4 pedicels arising from approximately the same point; pedicels 8–12 mm long, red-brown, tomentulose, generally straight-ascending; bracts minutely foliar, 7–8 mm long, 4–5-jugate, minutely puberulent; bracteal lobes $4\text{--}5 \times 0.5$ mm. Hypanthium light green, cupular-campanulate, 3.5 mm long \times 4.5–5 mm wide at the top, reddish brown puberulent to nearly glabrous; sepals broadly ovate, 6×5 mm, lightly puberulent on outer surface, sometimes minutely ciliolulate on apical margins; petals showy, intense pale yellow, $8\text{--}10 \times 4\text{--}5$ mm, persistent, somewhat cucullate; staminal tube 15–17 mm long, lightly la-

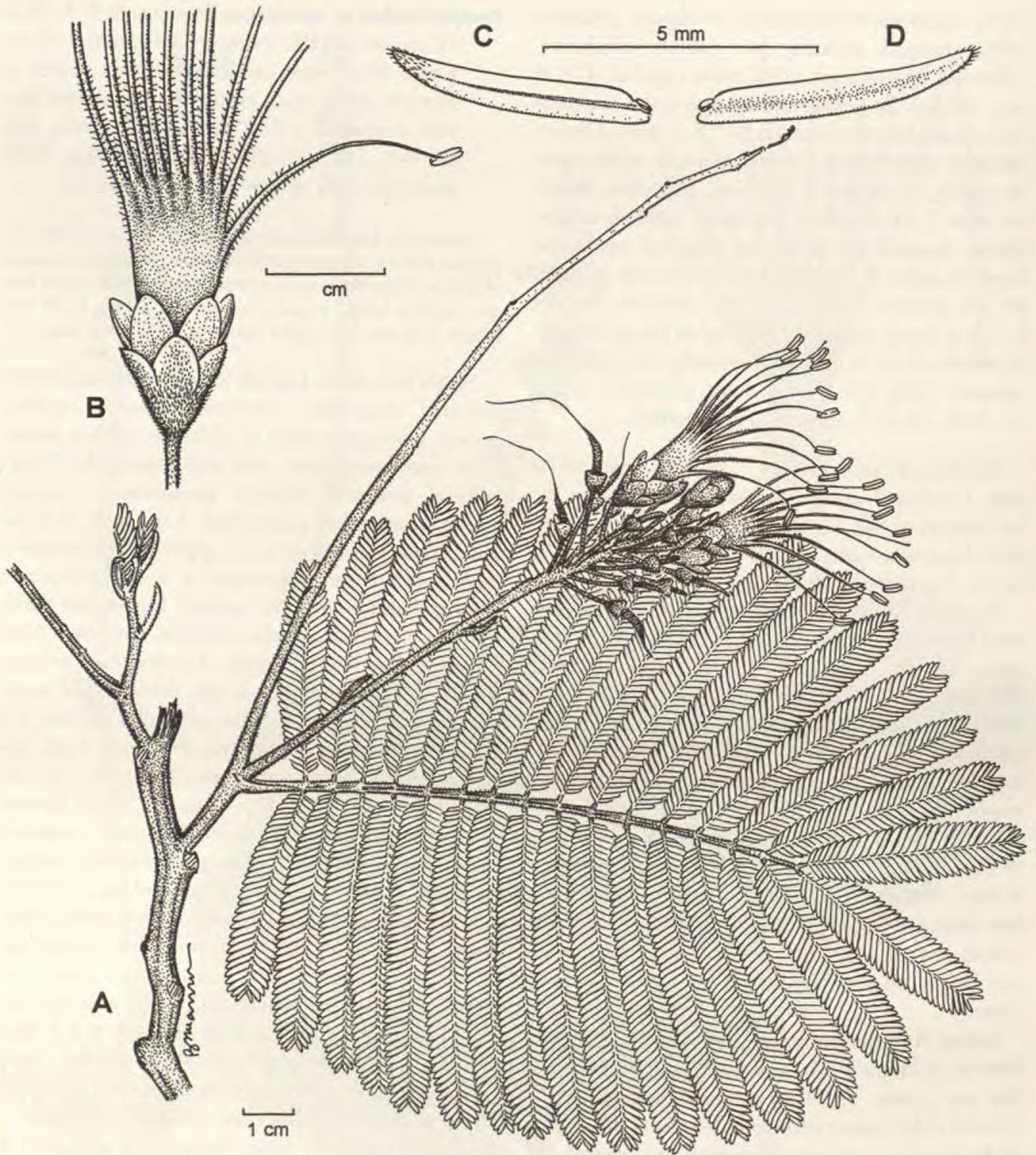


Figure 2. *Jacqueshuberia splendens* Stergios & P. E. Berry. —A. Habit. —B. Flower showing only the lower part of stamens. —C. Underside of leaflet. —D. Upper side of leaflet. Based on *Huber & Medina 5929*.

nate-villose around the base of the filaments, practically glabrous toward the base of the tube; stamens 10, the distal 2 originating lower down on the tube than the other 8, the free portion 20–25 mm long, with some scattered, villous hairs to about halfway toward the apex, then becoming glabrous; anthers bright yellow, 3.5×1.5 mm, apically truncate; ovary cinnamon-tomentulose, 6–7 mm long, stipe 2.5 mm; style 22–26 mm long, glabrous; ovules 20–21. Pods not seen.

Distribution and ecology. Frequent along edge of stream in open, rocky shrubland and adjacent low forest on the eastern slopes of Cerro Aracumuni, a sandstone mountain ("tepui") in southern Venezuelan Amazonas state, at about 800 m elevation.

Jacqueshuberia splendens can be distinguished by the glossy sheen of the foliage and by the coriaceous, smooth leaflets with only the lower surface midrib visible. It is also characterized by its bright

yellow flowers grouped toward the apex of the raceme on straight-ascending pedicels. Also notable is the insertion of two of the filaments lower down on the staminal tube.

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